

NOAA Pacific Islands Technical Assistantship  
Hawaii  
Project Plan



Mark Mazzola  
Hawaii Coastal Zone Management Program  
April 2004

## **Introduction**

The Hawaii Coastal Zone Management program (CZM) was developed in 1977 in response to the federal Coastal Zone Management Act. CZM, located within the State Office of Planning, has a mission to balance marine and coastal resource protection with sustainable economic development. It develops and articulates appropriate land and resource management policies for the coastal zone through coordination with federal, state, and local governments, non-profit and stakeholder groups, and the general public. The coastal zone encompasses the entire state including all marine waters seaward to the extent of the state's police power and management authority, including the 12-mile U.S. territorial sea and all archipelagic waters. Some of the key planning and regulatory elements of CZM include the provision and protection of recreational areas, the protection and restoration of Hawaiian and American cultural resources, and the reduction of hazards from natural and human-induced disasters.

The Pacific Islands Technical Assistant works jointly with the CZM and Statewide GIS Program activities. The Assistant will work under the direction of CZM to support Hawaii's coastal and marine resources management. This includes assisting CZM in coordinating with outside agencies and community organizations for integrated management of coastal and marine resources, participating in general State Office of Planning and GIS Program activities, and conducting training opportunities for State Office of Planning and other State users in GIS and geospatial techniques. Priority projects for CZM currently include cumulative and secondary impacts (which includes watershed management), coastal hazards, and nonpoint source pollution.

Following are descriptions of the Assistant's involvement for projects that are envisioned for year one. This project plan is a living document and will be updated every six months and as necessary.

## **List of Projects**

1. Wai`anae Ecological Characterization Project (Cumulative and Secondary Impacts)
2. General GIS Support for CZM
3. Hawaii Coastal and Estuarine Land Conservation Plan
4. Coastal Atlas

## **Project Descriptions**

### 1. Waianae Ecological Characterization

The goals of CZM's Cumulative and Secondary Impacts (CSI) Initiative are to develop, implement, and institutionalize an integrated planning approach that enables the assessment and management of the cumulative and secondary impacts of pollution through traditional Hawaiian ahupua`a management concepts. An ahupua`a is an ancient land division, still used today, based on mountain ridges, streams, or other natural features. Ahupua`a management is similar to a watershed management approach in that it conforms to the existing geography and its resources and strives to enhance the productivity of the land to benefit both natural and human ecosystems.

Eventually, ahupua`a and watershed concepts will be incorporated into CZM's enforceable policies to provide an integrated planning approach for assessing and managing CSI, resulting in changes to CZM permitting process and other regulatory programs. As a pilot project, CZM has been working with the community of Waianae on the western shore of O`ahu, a community with the greatest percentage of native Hawaiians in the state, in developing a management framework for the entire Wai`anae moku, a traditional land district comprised of several ahupua`a. The Wai`anae Ecological Characterization (WEC) is a tool being developed as part of this initiative.

The WEC will be an interactive CD-ROM with information and planning tools for community leaders, educators, researchers, partnering agencies, and other stakeholders and interested parties. It will contain information on Wai`anae's aquatic and terrestrial environment, socioeconomic characteristics, and historic and cultural traditions. There will also be a significant spatial component to the WEC, with explanations of how the GIS data included on the CD can be used to understand the impacts of new development and land use changes on natural and cultural resources. As the Wai`anae community is developing a moku management framework, CZM will provide outreach and training to assist community leaders, agencies, and the public in using the WEC to facilitate their efforts in land and resource management.

The Assistant will be responsible for completing the spatial component of the WEC, including the GIS tutorials. As much of this work was completed previously, the Assistant will be responsible for identifying gaps in the data, working with the Waianae community to continue assessing data needs, coordinating efforts with spatial data partners, and assisting with general project organization and management. The Assistant will also develop and deliver training materials and courses to promote the use of the WEC by the Wai`anae community. Finally, the Assistant will review and provide input on the policy development and planning process of the Wai`anae management framework.

Project 1	Wai`anae Ecological Characterization
<b>Activity</b>	<ul style="list-style-type: none"> <li>• Complete GIS tutorials</li> <li>• Continue to develop spatial data and metadata</li> <li>• Attend Waianae community meetings and meet with project partners to further assess data needs</li> <li>• Review spatial data from partners for gaps and errors</li> <li>• Conduct outreach and education activities to promote use of the CD-ROM</li> <li>• Review and provide input on the Wai`anae management framework development process</li> </ul>
<b>Deliverable(s)</b>	<ul style="list-style-type: none"> <li>• Spatial component of WEC CD-ROM, which will include GIS data layers, GIS tutorials, and descriptions of how spatial information can be used in land and resource management efforts</li> <li>• Community outreach to promote the WEC and training sessions on how to utilize the GIS on the WEC CD-ROM</li> </ul>
<b>Date</b>	<ul style="list-style-type: none"> <li>• Draft spatial information and tutorials will be due June 2004</li> <li>• Finals will be due September 2004</li> <li>• The Wai`anae management framework development process will be complete in Spring 2005</li> <li>• Training and outreach efforts will be ongoing</li> </ul>

## Project Summary

*To be added once project is complete.*

### 2. General GIS Support for CZM

#### *A. GIS Training for State Employees*

One of the primary objectives of this Assistantship is to build the GIS capacity of Hawaii's resource managers. Many state employees are unaware of the applicability of GIS to resource management projects and the important role GPS and remote sensing information can play in resource analysis. Extensive training has been done for state employees on using ESRI ArcView and ArcGIS software, including an introductory course on global positioning systems (GPS), with help from the NOAA Pacific Services Center and Coastal Services Center. The Assistant will assess current training needs through discussions with CZM and State Office of Planning staff and conduct training with respect to those needs and to topics covered during the previous Assistantship. Training will be continued for GIS users at all levels for ArcGIS, GPS, and GIS analysis techniques such as remote sensing. Training will range from monthly (perhaps more frequently, depending on demand) informal office discussions led by the Assistant to formal sessions, open to employees in other government agencies, taught with assistance from NOAA Pacific Services Center and Coastal Services Center staff.

#### *B. Coordination and Data Sharing With CZM Program Partners*

The integration of GIS activities between CZM and its partners is essential for effective use and capacity building for GIS technology. As such, communication between these partners is fundamental for establishing a data resource network. Facilitation and coordination of projects with other partners to enhance project synergy will be achieved through the Assistant's participation with various GIS user and coastal resource groups. The Assistant will inform partners of activities and data, and will work to open the lines of communication between organizations with common goals.

#### *C. Participation in State GIS Program Activities*

The Assistant will participate in State GIS Program activities, including attending weekly GIS Program staff meetings, to become familiar with the state's program and better provide general GIS support to CZM staff for their various projects. This support will include making maps or conducting GIS analyses relevant to staff projects or assisting staff in using GIS software and acquiring spatial data on their own. In general, the Assistant will be a resource for CZM staff in their overall GIS and spatial needs.

#### *D. Participation in GIS User Groups*

The Assistant will participate in the following user groups through meetings and online discussions, as well as attend and present at local conferences:

1. Marine Ecosystem GIS (MEGIS)

2. Hawaii Geographic Information Coordinating Council (HIGICC)
  - Will present on the WEC and volunteer support
3. ESRI Hawaii GIS Users Group (HUG)
  - Presented on the WEC at the May 19, 2004 meeting

<b>Project 2</b>	
<b>General GIS Support for CZM</b>	
<b>Activity</b>	<ul style="list-style-type: none"> <li>• Assess current training needs and desires of Hawaii CZM, Office of Planning, and other agency staff</li> <li>• Conduct formal and informal training sessions for Hawaii CZM, Office of Planning, and other agency staff</li> <li>• Coordinate efforts and share data with CZM project partners through meetings, activities, conferences, and informal networking</li> <li>• Attend MEGIS, HIGICC, and ESRI HUG meetings and conferences</li> </ul>
<b>Deliverable(s)</b>	<ul style="list-style-type: none"> <li>• Training sessions held on GIS software and analyses techniques for state resource agency employees</li> <li>• Increased spatial data inventories for CZM and other state resource agencies</li> <li>• Enhanced GIS capacity from attending conferences and networking with other GIS users</li> </ul>
<b>Date</b>	<ul style="list-style-type: none"> <li>• Needs assessment for GIS training in May 2004</li> <li>• Begin training June 2004</li> <li>• Coordination and data sharing efforts ongoing</li> <li>• Participation in GIS user groups ongoing</li> </ul>

### Project Summary

*To be added once project is complete*

### 3. Hawaii Coastal and Estuarine Land Conservation Plan

In 2002 the Coastal and Estuarine Land Conservation Program (CELP) was created to protect coastal and estuarine areas with “significant conservation, recreation, ecological, historic, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses.” NOAA administers this program, which provides federal matching funds to states through a competitive process to purchase these lands in full or through conservation easements.

CZM has organized a Coastal and Estuarine Land Conservation Planning Advisory Group (CELCAG) to provide advice on the preparation of a proposal that prioritizes important coastal areas for conservation purposes. These areas will eventually be submitted for approval and competitive funding from NOAA. The Advisory Group is composed of representatives from the four Hawaiian counties, several public land trusts, CZM, and the Department of Land and Natural Resources. CZM is currently seeking a contractor to work with CZM and the CELCAG to develop a Hawaii Coastal and Estuarine Land Conservation Plan for NOAA approval, which would allow Hawaii to participate in the CELP. This plan will provide an assessment of priority land conservation needs based on state and national criteria and clear guidance for nominating and selecting land conservation projects within the state.

The Assistant will provide assistance to the contractor and the CELCAG through support with GIS maps and spatial data for the coastal and estuarine areas within Hawaii. In addition, the Assistant

will help review, and provide input on, the plan development process to ensure that it is consistent with the goals of CZM, CELP, the CELCAG, and the public.

<b>Project 1</b>	<b>Hawaii Coastal and Estuarine Land Conservation Plan</b>
<b>Activity</b>	Activities will be described in greater detail once project begins <ul style="list-style-type: none"> <li>• Provide assistance with GIS mapping and spatial data</li> <li>• Review CELP plan development process</li> </ul>
<b>Deliverable(s)</b>	<ul style="list-style-type: none"> <li>• A plan to identify and prioritize coastal and estuarine land, and then submit these lands for review in the competitive CELP funding process, for conservation purposes</li> </ul>
<b>Date</b>	<ul style="list-style-type: none"> <li>• To be determined</li> </ul>

#### Project Summary

*To be added once project is complete.*

#### 4. Coastal Atlas

The Hawaii Statewide GIS Program has begun an initiative to develop a Coastal Atlas that would assist state lawmakers, government officials, and the public in their land and resource management decision-making efforts. These maps would display themes commonly requested from the Statewide GIS Program, often related to issues surrounding rapidly developing areas of the state. As this project is in its initial stages, discussions are still being held on the format of the atlas, the content of the atlas, and what areas will be included. An advisory group may be established to provide input and recommendations on these issues.

It is anticipated that the Assistant will provide input on the format and content of the atlas as well as collect and manage spatial data, create maps, and generally assist in the creation of the atlas.

<b>Project 2</b>	<b>Coastal Atlas</b>
<b>Activity</b>	Activities will be described in greater detail once project begins <ul style="list-style-type: none"> <li>• Identify spatial content of atlas</li> <li>• Collect and manage spatial data</li> <li>• Create maps</li> </ul>
<b>Deliverable(s)</b>	<ul style="list-style-type: none"> <li>• Atlas of Hawaii's coastal areas or "hotspots"</li> </ul>
<b>Date</b>	<ul style="list-style-type: none"> <li>• To be determined</li> </ul>

#### Project Summary

*To be added once project is complete.*

## Professional Development Allowance

### Travel Events and Cost:

Event (including location)	Dates	Estimated Cost
ESRI Hawaii GIS User Group Meeting, Honolulu, HI	February 11, 2004	No cost
NOAAs Oceanic and Coastal Program Managers Meeting, Washington, DC	March 9-11, 2004	\$1,232.90
Visit to Waipa Foundation SEA Grant Site, Kauai, HI-- <b>Cancelled</b> but ticket purchased	April 8, 2004	\$254.02
Technical Training, Charleston, SC	May 10-14, 2004	\$1,800.00
GIS Mapping in the Asia and the Pacific (GISMAP) 2004: Protecting and Strengthening Communities in the Pacific, Honolulu, HI	June 7-9, 2004	\$250.00
All Islands Management Meeting, Saipan, CNMI	June 21-23, 2004	\$3,000.00
EPA Region 9 Conference, Saipan, CNMI	June 23-25, 2004	
Coastal Zone Asia Pacific Conference 2004, Brisbane, Australia	September 5-9, 2004	\$3,000.00

### Additional Costs:

None at this time.

### Presentations:

- “Wai`anae Ecological Characterization” ESRI Oahu User Group Meeting, May 19, 2004, Honolulu, Hawaii.
- “Hawaii PITA Project Plan” All Islands Coastal Zone Conference, June 20-23, 2004, Saipan, Commonwealth of the Northern Mariana Islands.

## Approval

---

Mark Mazzola

Pacific Island Assistant

---

Chris Chung

Island Manager(s)

---

Darcee Killpack

PSC Assistantship Coordinator